ADEQ Arizona Department of Environmental Quality

PUBLIC NOTICE

PROPOSED LEAKING UST (LUST) CASE CLOSURE

The Arizona Department of Environmental Quality (ADEQ) is considering closure of the following leaking underground storage tank (LUST) cases:

LUST Case File #: 1618.01-.02
Facility ID # 0-006237
Maricopa County

Former Fedmart #206
3010 NW Grand Avenue
Phoenix, Arizona 85017

The facility is currently occupied by Shamrock Towing and is used as a vehicle impoundment yard. The underground storage tanks (USTs) were removed in December 1990. Two LUST releases associated with the UST tank pit and the dispenser island were assigned.

The UST Owner, Sunbelt Stores, Inc., began site characterization in 1991 and remedial activities began in 2010 and continued through 2015 both on and off site. A total of 64 remedial wells were installed. Vapor Extraction (VE), Air Sparge (AS) and Groundwater Extraction (GE) systems operated sporadically during the remediation period. A total of 309,606 pounds of volatile organic compounds (VOCs) (the equivalent of 49,936 gallons of gasoline).

A site specific risk assessment and detailed file/information search were also completed. Chemical concentrations in groundwater have declined 100% for benzene, toluene, ethylbenzene and xylene (BTEX), and 97.6% for 1,2-Dichloroethane (1,2-DCA). 1,2-DCA is the only petroleum related chemical in groundwater that still exceeds its Aquifer Water Quality Standard (AWQS) in five wells. 1,2-DCA was an additive in leaded gasoline. Some other VOCs, tetrachloroethene, trichloroethene and 1,1-Dichloroethene are present in the groundwater but they are related to the West Central Phoenix, East Grand Avenue Water Quality Assurance Revolving Fund (WQARF) site. The depth to groundwater is approximately 150 feet below ground surface.

Based upon the results of remedial activities and site specific information, the above-referenced LUST site is eligible for alternative LUST closure under Arizona Revised Statutes (A.R.S.) §49-1005(E). Arizona Administrative Code (A.A.C.) R18-12-263.04 allows case closure of a LUST site with groundwater contamination above the AWQS or Tier 1 Standards. ADEQ has considered the results of a site specific assessment and the rule specific criteria below:

1. *Threatened or impacted drinking water wells*: The ADWR database indicates there is one public drinking water well located within ¼ mile of the characterized groundwater plume. ADWR registered well 55-618512 provides drinking water to the Michigan Trailer Park. This well is located northwest and cross gradient to the characterized groundwater plume but based on region groundwater maps produced for the West Central Phoenix, East Grand Avenue Water Quality Assurance Revolving Fund (WQARF) site, influence from pumping of Salt River Project well 10.5E-07.5N, 55-608377, may draw groundwater in a northwesterly direction in the vicinity the Michigan Trailer Park. Monitor wells associated with the facility, MW-11, MW-12 WCP-88 and WCP-96 and located between the facility and the Michigan Trailer Park drinking water well have been monitored since 2001. These wells have either not detected 1,2-DCA or demonstrate a declining trend in 1,2-DCA

concentrations and are all currently below the AWQS indicating the characterized groundwater plume is not a threat to Michigan Trailer Park drinking water well.

2. *Other exposure pathways*: Soil samples collected between 5 and 15 feet had no VOC contamination present over an applicable regulatory standard, so dermal contact and ingestion are not complete exposure pathways. Soil contamination was present over an applicable regulatory standard at depths over 55 feet. The vapor intrusion risk was determined to be acceptable based on soil vapor data collected and modeled using the Johnson and Ettinger on-line screening version. Incidental dermal contact with the groundwater is considered *de minimis* risk. There are no sensitive receptors within ¼ mile of the site.

3. *Groundwater plume stability*: 1,2-DCA is the only petroleum related chemical remaining in the dissolved-phase in the groundwater. Overall VOC concentrations are trending downward and are expected to continue to attenuate. The contractor conducted a Mann-Kendall trend analysis to support this assertion. These factors indicate that the groundwater plume is stable.

4. *Characterization of the groundwater plume:* Nineteen monitoring wells were installed and collection of VOC samples has taken place between 1999 and 2015. Dissolved-phase petroleum hydrocarbons have been characterized and the only VOC remaining over AWQS is 1,2-DCA in five wells. In July 2016 the maximum concentration of 1,2-DCA is 47.9 µg/L in well GWE-3.

5. *Natural Attenuation*: Natural attention can be demonstrated by the decreasing VOC concentrations below applicable regulatory standards at the site for all chemicals except 1,2-DCA. 1,2-DCA is a recalcitrant compound so it remains long after other VOCs have been removed or have attenuated. VOC concentrations began to decrease faster once remediation was implemented. The concentrations will continue to aerobically degrade since the dissolved oxygen concentrations are high (above 0.5 mg/L). Field data indicates that iron and sulfate concentrations in the middle portion of the plume indicate that anaerobic bioremediation has or is taking place. Once the dissolved oxygen levels drop below 0.5 mg/L, anaerobic bioremediation will continue to degrade the remaining 1,2-DCA.

6. *Removal or control of the source of contamination*: Both contaminated groundwater and soil has been removed or controlled through the use of multiple remedial technologies. The remediation systems removed approximately 309,606 pounds of VOCs since November 2010. This is equivalent to 49,936 gallons of gasoline. Source control has been completed by the removal of USTs in 1990. Free product has been removed and has not been detected on or off site since 2013. Historically, BTEX concentrations were 42,000 µg/L, 52,000 µg/L, 4,300 µg/L and 27,000 µg/L, respectively. As of December 2015, none of the wells have BTEX concentrations exceeding an AWQS.

7. *Requirements of A.R.S. §49-1005(D) and (E):* The results of the corrective action completed at the site assure protection of public health, welfare and the environment, to the extent practicable, the clean-up activities competed at this site allow for the maximum beneficial use of the site, while being reasonable, necessary and cost effective.

8. *Other information that is pertinent to the LUST case closure approval*: The facility and LUST files were reviewed for information regarding prior cleanup activities, prior site uses and operational history of the UST system prior to removal.

Groundwater information: **Monitor Well GWE-1**

Date	1,2-DCA AWQS is 5 µg/L	Oxidation Reduction Potential (mV)	Dissolved Oxygen (mg/L)	Depth to water (Feet)
1/7/2011	<0.5	NM	NM	133.83
3/2/2011	20.8	NM	NM	NM
9/13/2011	160	NM	NM	NM
3/22/2012	30.8	NM	NM	NM
8/23/2012	<100	NM	NM	NM
02/12/2013	<10	NM	NM	NM
10/23/2013	<20	NM	NM	NM
3/5/2014	9.8	NM	NM	NM
8/13/2014	<1.0	NM	NM	NM
3/19/2015	9.7	NM	NM	NM
9/24/2015	9.0	NM	NM	NM
12/16/2015	21.5	NM	NM	146.82
6/28/2016	6.51	56	4.4	148.17
7/25/2016	6.89	-35	3.9	148.38

NM= Not Measured

Groundwater information: **Monitor Well GWE-2**

Date	1,2-DCA AWQS is 5 µg/L	Oxidation Reduction Potential (mV)	Dissolved Oxygen (mg/L)	Depth to water (Feet)
1/7/2011	26.3	NM	NM	133.74
3/2/2011	1,040	NM	NM	NM
9/13/2011	750	NM	NM	NM
3/22/2012	871	NM	NM	NM
8/23/2012	<100	NM	NM	NM
02/12/2013	<50	NM	NM	NM
10/23/2013	<20	NM	NM	NM
3/5/2014	58	NM	NM	NM
8/13/2014	7.2	NM	NM	NM
3/19/2015	7.7	NM	NM	NM
9/24/2015	5.3	NM	NM	NM
12/15/2015	9.1	NM	NM	147.07
6/28/2016	7.14	-21	6.7	148.54
7/27/2016	8.4	-41	3.7	148.86

NM= Not Measured

Groundwater information: **Monitor Well GWE-3**

Date	1,2-DCA AWQS is 5 µg/L	Oxidation Reduction Potential (mV)	Dissolved Oxygen (mg/L)	Depth to water (Feet)
1/7/2011	21.1	NM	NM	133.14
3/2/2011	155	NM	NM	NM
9/13/2011	620	NM	NM	NM
3/22/2012	289	NM	NM	NM
8/23/2012	<100	NM	NM	NM
02/12/2013	<50	NM	NM	NM
10/23/2013	<20	NM	NM	NM
3/5/2014	64	NM	NM	NM
8/13/2014	6.9	NM	NM	NM
3/19/2015	9.9	NM	NM	NM
9/24/2015	9.1	NM	NM	NM
12/15/2015	68.8	NM	NM	147.13
6/28/2016	33.4	-58	5.1	148.54
7/27/2016	47.9	-61	3.8	148.96

NM= Not Measured

Groundwater information: **Monitor Well GWE-5**

Date	1,2-DCA AWQS is 5 µg/L	Oxidation Reduction Potential (mV)	Dissolved Oxygen (mg/L)	Depth to water (Feet)
1/7/2011	4.04	NM	NM	132.9
3/2/2011	8.6	NM	NM	NM
9/13/2011	730	NM	NM	NM
3/22/2012	NM	NM	NM	NM
8/23/2012	<10	NM	NM	NM
02/12/2013	<10	NM	NM	NM
10/23/2013	<20	NM	NM	NM
3/6/2014	NM	NM	NM	NM
8/13/2014	8.6	NM	NM	NM
3/19/2015	10	NM	NM	NM
9/24/2015	9.3	NM	NM	NM
12/15/2015	12.9	NM	NM	148.54
6/28/2016	8.4	-60	5.3	150.04
7/27/2016	7.69	-51	3.6	150.54

NM= Not Measured

Groundwater information: **Monitor Well WCP-202**

Date	1,2-DCA AWQS is 5 µg/L	Oxidation Reduction Potential (mV)	Dissolved Oxygen (mg/L)	Depth to water (Feet)
1/7/2011	NM	NM	NM	NM
6/24/2015	28.0	NM	NM	141.22
12/16/2015	31.9	NM	NM	142.76
6/27/2016	14.5	88	7.4	144.00
7/25/2016	19.3	-46	4.8	144.22

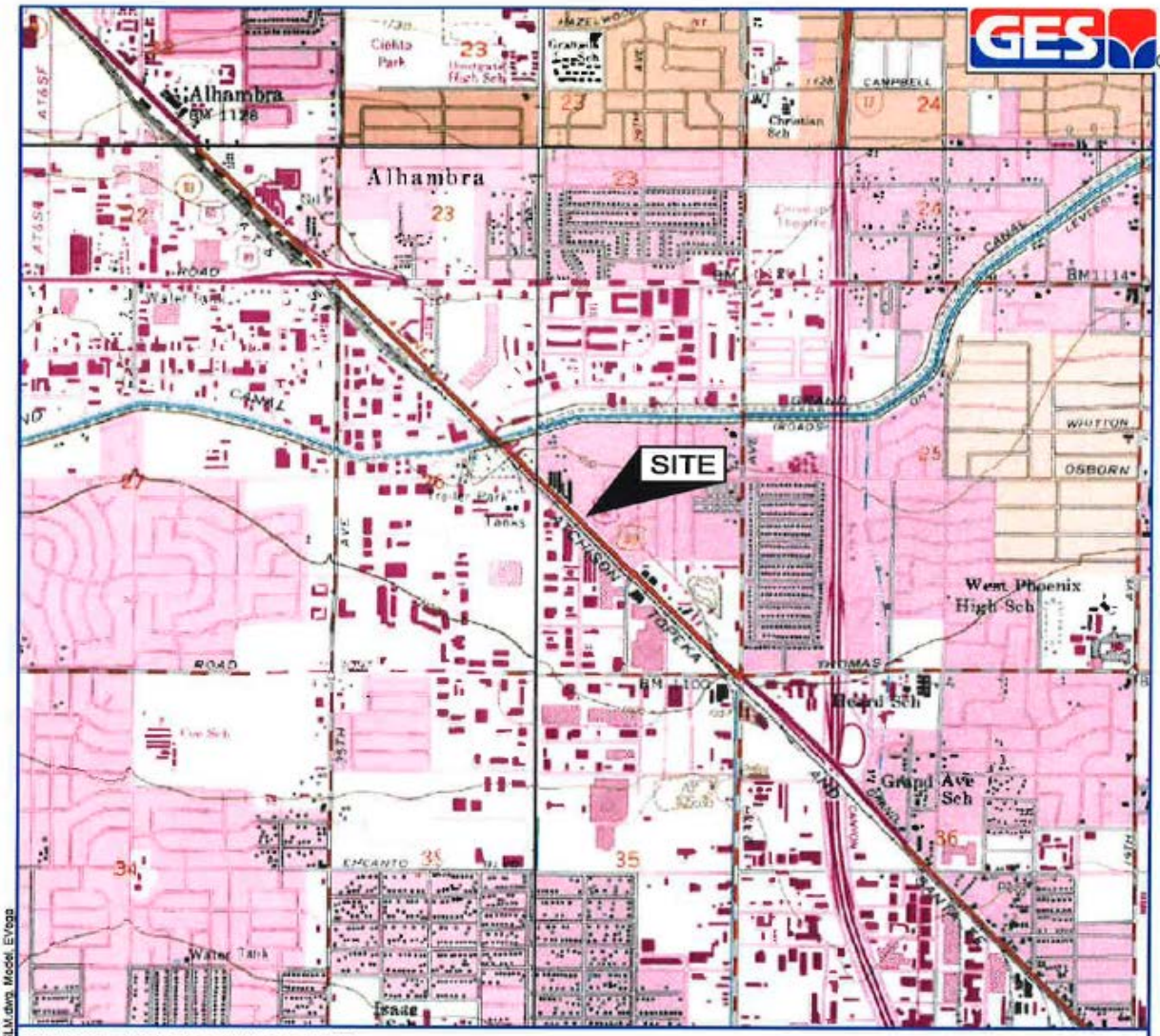
Site specific information concerning this closure is available for review during normal business hours at the ADEQ Records Center http://www.azdeq.gov/function/assistance/records.html , 1110 W. Washington St., Suite 140, Phoenix, AZ 85007. ADEQ welcomes comments on the proposed LUST case closure. Please call the Records Center at 602-771-4380 to schedule an appointment. A 30-day public comment period is in effect commencing **March 2, 2017** and ending, **March 16, 2017**. Comments should be submitted in writing to the Arizona Department of Environmental Quality, Waste Programs Division, Attention Scott Goodwin, 1110 W. Washington Street, Phoenix, AZ 85007.

If sufficient public interest is demonstrated during the public comment period, ADEQ will announce and hold a public meeting. ADEQ will respond to written comments following the public comment period. For more information on this notice, please contact Scott Goodwin at 602-771-4452 or 800-234-5677 ext. 771-4452 or at sdg@azdeq.gov.

Copies of the cited statutes and rules can be found at:
http://www.azleg.gov/ArizonaRevisedStatutes.asp?Title=49, and
http://www.azsos.gov/public_services/Title_18/18-12.html

ADEQ will take reasonable measures to provide access to department services to individuals with limited ability to speak, write, or understand English and/or to those with disabilities. Requests for language interpretation services or for disability accommodations must be made at least 48 hours in advance by contacting: 7-1-1 for TDD; (602) 771-2215 for Disability Accessibility; or Ian Bingham, Title VI Nondiscrimination Coordinator at (602) 771-4322 or idb@azdeq.gov.

ADEQ tomará medidas razonables para proveer acceso a los servicios del departamento para personas con capacidad limitada para hablar, escribir o entender Inglés y / o para las personas con discapacidad. Las solicitudes de servicios de interpretación del lenguaje o de alojamiento de discapacidad deben hacerse por lo menos 48 horas de antelación poniéndose en contacto con Ian Bingham, Title VI Nondiscrimination Coordinator al (602) 771-4322 o idb@azdeq.gov.



SOURCE: USGS 7.5 MINUTE SERIES
TOPOGRAPHIC QUADRANGLE 1982
PHOENIX, ARIZONA
CONTOUR INTERVAL = 10'

QUADRANGLE LOCATION

DRAFTED BY: E.V. (N.J.)	SITE LOCATION MAP
CHECKED BY:	SUNBELT #206 3010 NW GRAND AVENUE PHOENIX, ARIZONA
REVIEWED BY:	Groundwater & Environmental Services, Inc. 5913 EAST QUAIL TRACK DRIVE, SCOTTSDALE, ARIZONA 85266
NORTH	SCALE IN FEET: 0 — 2000 / DATE: 6-25-09 / FIGURE: 1

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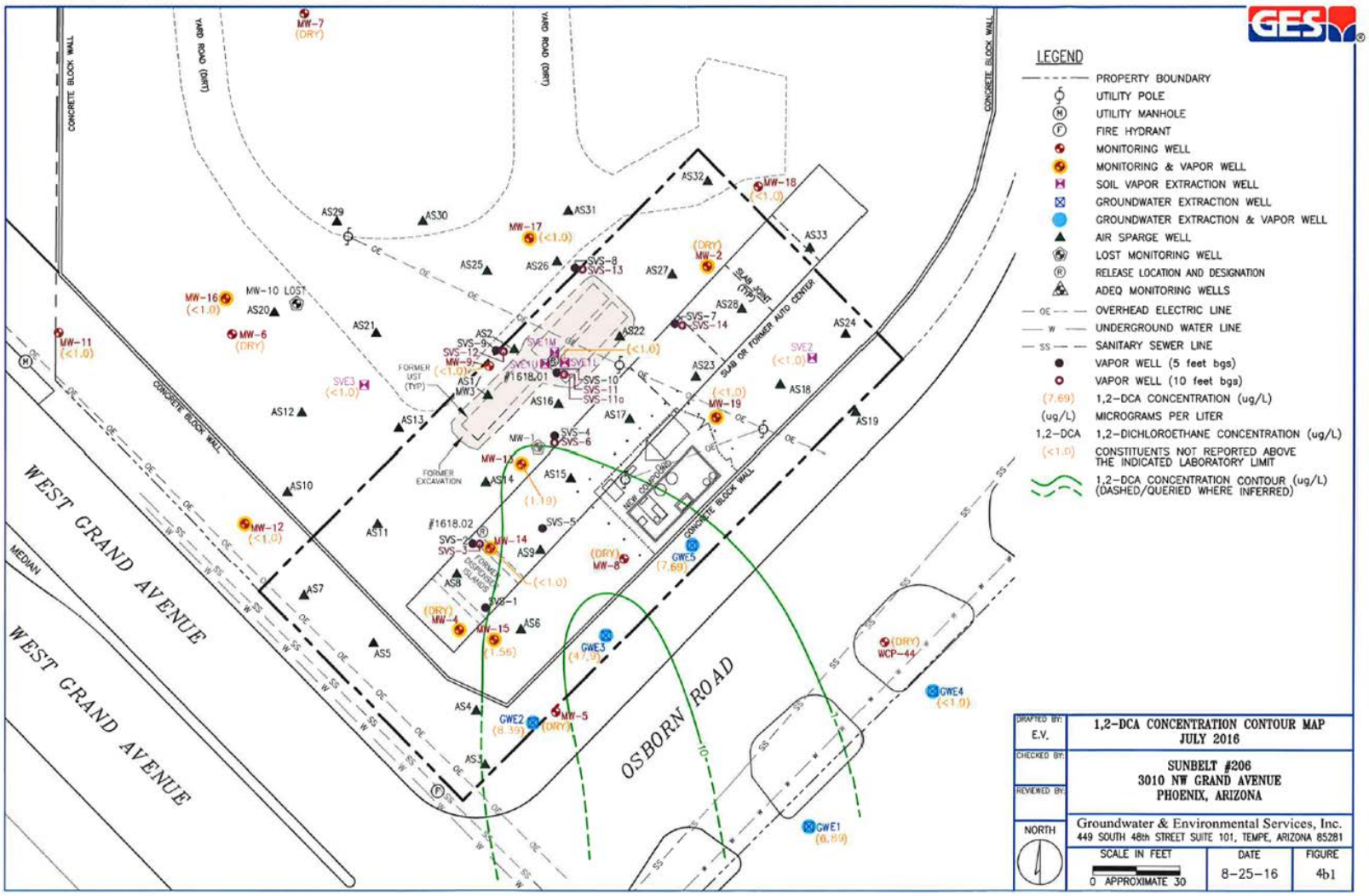

DRAFTED BY: E.V.	1,2-DCA CONCENTRATION CONTOUR MAP JULY 2016	
CHECKED BY:	SUNBELT #206 3010 NW GRAND AVENUE PHOENIX, ARIZONA	
REVIEWED BY:	Groundwater & Environmental Services, Inc. 449 SOUTH 48th STREET SUITE 101, TEMPE, ARIZONA 85281	
NORTH	SCALE IN FEET 0 APPROXIMATE 30	DATE 8-25-16
		FIGURE 4b1

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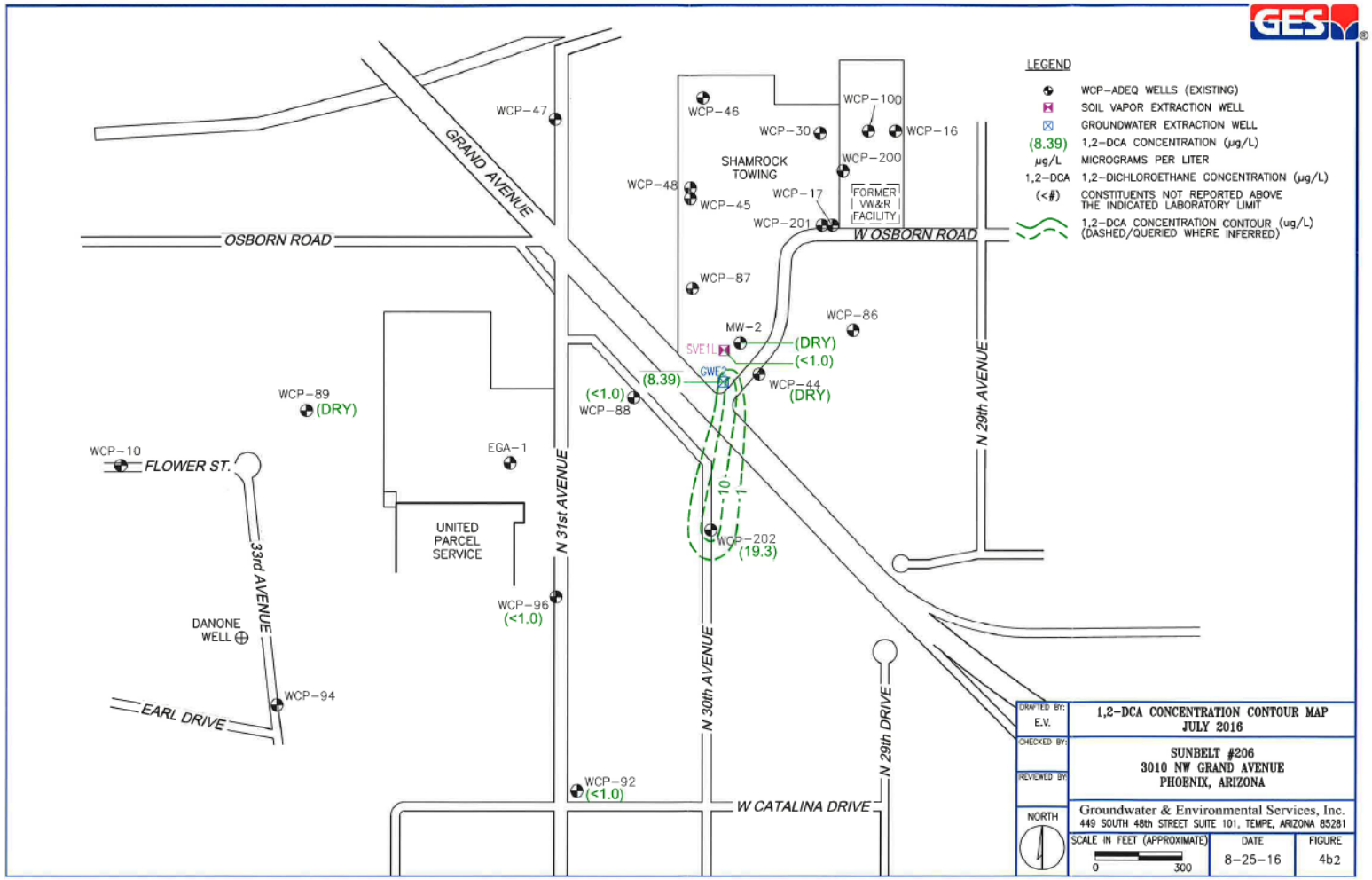

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ADEQ Arizona Department of Environmental Quality Memorandum

Date: January 24, 2017

To: LUST File

From: Debi Goodwin, Sr. Risk Assessor
State Lead Unit
UST-LUST Section

Subject: Corrective Action Completion Report
Former FedMart #206
F 0-006237 L 1618.01-.02

Background

This commercial property (the Site) is located at 3010 NW Grand Avenue in Phoenix. The Site is currently an industrial/commercial property being used by Shamrock Towing. The property is was formerly FedMart Facility #206. In December 1990, USTs were removed from the Site. ADEQ assigned a release number to the UST basin and one to the former dispenser island. Site characterization of the soil began in March 1991 and continued through 1996. Several monitoring wells were installed between 1997 and 2007. In 2009, ADEQ directed Sunbelt Investment Holdings, Inc. to conduct active remediation for benzene and 1,2-DCA contamination. Between 2010 and 2016 active remediation was conducted on and off site. The remediation system consisted of soil vapor extraction, air sparge and groundwater extraction and treatment. A Facility Meeting was held in January 2015 to discuss closure requirements. In April 2015 a *Site Characterization Report* was submitted and approved by ADEQ in June 2016. In December 2015, a Facility Meeting was held to discuss status of readiness for LUST case closure. ADEQ requested additional soil sampling which was done and reported in a March 2016 submittal, and a soil vapor survey which was done in July 2016 prior to any request for LUST case closure.

Purpose

GES on behalf of Sunbelt Investment Holdings, Inc., submitted a *Corrective Action Completion Report* which was received October 11, 2016. It is the intention that this submittal will satisfy the LUST closure criteria under R18-12-263.04. The information described above and all available information was utilized by ADEQ to determine whether levels of contaminants at the site are adequately protective of human health and the environment.

Risk Assessment

Soil

Remediation activities for soil and groundwater included vapor extraction (VE) and air sparge (AS). In December 2015, additional soil samples were collected to evaluate for all compounds of concern (CoCs) related to leaded gasoline since 1,2-DCA (leaded gasoline additive) has previously been discovered at the Site. Two soil borings (CB1 and CB2) were advanced in the vicinity of the two releases. CB1 had naphthalene concentrations that exceed the rSRL, but is below the nrSRL at 55 feet bgs, and several VOCs exceed the rSRL at a depth of 125 feet.

Subsurface soil consisted of mainly sands and silty sand. The samples were analyzed for VOCs by EPA Method 8260B (full list), PAHs, and tetraethyl lead.

Soil Vapor

In July, 2016, a shallow soil vapor sampling survey was conducted. Five temporary soil vapor wells were installed to a depth of 5.5 feet. The samples were collected in 1-L Summa canisters. The samples were analyzed by EPA Method TO-15 and included the additional compounds required for ADEQ. Laboratory QA/QC was acceptable for Tier 3 risk assessment, and the field QA/QC was acceptable.

GES conducted the inhalation risk evaluation. The soil vapor data portion of the risk assessment included all CoCs associated with the fuel releases and CoCs not associated with the fuel releases. The area was evaluated for future residential use. Conservative residential parameters were used for evaluation of the building, including an air exchange rate of 0.25 [hr^{-1}], loam for the soil type and it being a 100 square meter house built slab-on-grade. The maximum concentrations for the CoCs in the soil vapor were evaluated from each vapor point. The cancer risk (ELCR) and the hazard risk (HI) for the release areas were evaluated using the EPA's on-line version [forward calculation] of the Screening Level Johnson and Ettinger Model. Toxicity data from the EPA Regional Screening Level table for residential air was updated and entered into the model. GES concluded that the data shows the cumulative ELCR below the acceptable risk level of 10^{-6} or the HI level of 1.

Groundwater

Groundwater monitoring began at the Site in 1997. In 2007, groundwater monitoring has been conducted at least annually. Static groundwater elevation has been declining over the years. The current groundwater flow direction is southwest to west. The depth to groundwater is approximately 152 feet bgs in July 2016.

The most recent groundwater monitoring event was in July 2016. Historic benzene, toluene, ethylbenzene xylene (BTEX) concentrations have decreased from a high of 42,000 µg/L, 52,000 µg/L, 4,300 µg/L and 27,000 µg/L, respectively in MW-4 in 1999 to below the AWQS. 1,2-DCA had a historic maximum concentration of 5,400 µg/L in well MW-4 in 1999. The most recent maximum concentration of 1,2-DCA is 47.9 µg/L in well GWE-3 in July 2016.

Based on the groundwater data reported in Table 1a-c, 1,2-DCA is the only remaining contaminant that is present over an applicable regulatory standard.

The ADWR database indicates there is one public drinking water well located within ¼ mile of the characterized groundwater plume. ADWR registered well 55-618512 provides drinking water to the Michigan Trailer Park. This well is located northwest and cross gradient to the characterized groundwater plume but based on region groundwater maps produced for the West Central Phoenix, East Grand Avenue Water Quality Assurance Revolving Fund (WQARF) site, influence from pumping of Salt River Project well 10.5E-07.5N, 55-608377, may draw groundwater in a northwesterly direction in the vicinity the Michigan Trailer Park.

Monitor wells associated with the site, MW-11, MW-12 WCP-88 and WCP-96 located between the site and the Michigan Trailer Park drinking water well have been monitored since 2001. These wells have either not detected 1,2-DCA or demonstrate a declining trend in

concentrations and are all currently below the AWQS indicating the characterized groundwater plume is not a threat to Michigan Trailer Park drinking water well.

There are no identified sensitive receptors like schools, daycare centers etc. within ¼ mile of the Site.

Conclusions and Recommendations

Soil

Under A.A.C. R18-7-206(D), multiple contaminants, multiple pathways of exposure, uncertainty of exposure and sensitive populations are evaluated as part of a site specific risk assessment. There isn't a risk posed by the dermal, ingestion, or inhalation exposure routes since the 5 foot soil samples indicated no contamination present over an applicable regulatory standard.

Groundwater

For alternative groundwater closure, several criteria under R 18-12-263.04 must be met. The contamination has been characterized and analytical data supports that the plume is stable and localized. The groundwater VOC concentrations have significantly declined. Natural attenuation has been demonstrated by the groundwater data collected. The water that is impacted by VOC contamination over an applicable regulatory standard is not used as a potable water source.

There is one public drinking water well located within ¼ mile of the property. The well is located cross gradient to the VOC contamination associated with the site and groundwater analytical data indicates the well will not be threatened from this contamination.

There were no identified sensitive receptors associated with the property. The soil vapor survey demonstrates that the residual petroleum contamination present does not pose an unacceptable inhalation risk from other pathways. The dermal contact and ingestion would be considered *de minimis* risk since the water is not used as a potable water source.

It is recommended that the LUST releases 1618.01 and .02 be closed under R18-12-263.04.

If there any questions regarding this memo, please contact me at dg1@azdeq.gov, or 771-4453.